CMHC
Cardiometabolic Health Congress

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Foundations of Cardiometabolic Health Certification Course

Certified Cardiometabolic Health Professional (CCHP)

Metabolic Surgery Case Studies

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Case #1

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Case 1

- Ms. F is a 48-year-old women who previously underwent an uneventful laparoscopic Roux-en-Y gastric bypass (RYGB) procedure 5 years ago.
- Initial weight, 320 lbs; nadir weight, 224 lbs (30% of preoperative weight). She returns today seeking a “surgical redo.” Patient has regained 48 lbs.
- Last patient visit, 4 years ago. She denies any new medical problems. She states that “life got in the way,” and she stopped following the dietary recommendations given at the time of surgery.
- She hasn’t taken her vitamin/mineral supplements for 3 years and is not taking any medications.

Case 1(cont'd)

- **On examination:** Weight, 272 lbs; height, 65";
  BMI, 45.4 kg/m^2; BP, 120/82 mm Hg; HR, 76 bpm
- Well-healed abdominal lap scars
- **Labs:**
  - Hb, 10.0 g/dL; Hct, 31%; MCV, 76 fL; ferritin, 7 ng/mL
  - Vitamin B_{12}, 220 ng/mL; 25-hydroxyvitamin D, 12 ng/mL
  - Parathyroid hormone, 95 pg/mL
- **UGI x-ray:** mildly enlarged gastric pouch, gastrojejunal anastomosis 1.5 cm
- **Management:** You refer her to an RDN for dietary counseling, review necessary supplementation, and prescribe multivitamin/mineral, iron, vitamin B_{12}, and vitamin D

Hb = hemoglobin; Hct = hematocrit; MCV = mean corpuscular volume; UGI = upper gastrointestinal.

Case 1: Question

What is your recommendation regarding her requested “surgical redo”?

1. Refer to a bariatric surgeon for a surgical revision
2. Refer to gastroenterology of an endoscopic procedure
3. Refer for placement of a gastric balloon
4. Refer to a health psychologist for behavioral support
5. Prescribe an anti-obesity medicine

Case 1: Discussion Points

- ✓There are *no* effective surgical revisions for an RYGB
- ✓Endoscopic procedures can be tried based on the skill and experience of the gastroenterologist
- ✓Gastric balloon is contraindicated
- ✓Health psychologist could be a useful adjunct to management
- ✓Prescription of an anti-obesity medication is reasonable but data are limited

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Case #2

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Case 2: Mr. T

- **Mr. T** is a 55-year-old insurance salesman under your care for multiple medical problems that include hypertension, type 2 diabetes mellitus, severe GERD, obstructive sleep apnea (OSA), osteoarthritis of the knees, and obesity. He makes an appointment today to ask your opinion regarding what he can do for his obesity, as he knows that most of his other health problems are due to his body weight.
- **Medications**
  - Metformin 500 mg BID
  - Glyburide 10 mg BID
  - Losartan 100 mg QD
  - Diltiazem 240 mg QD
  - Atorvastatin 10 mg QD
  - Aspirin 81 mg QD
  - Chlorthalidone 25 mg QD
  - Uses nightly CPAP

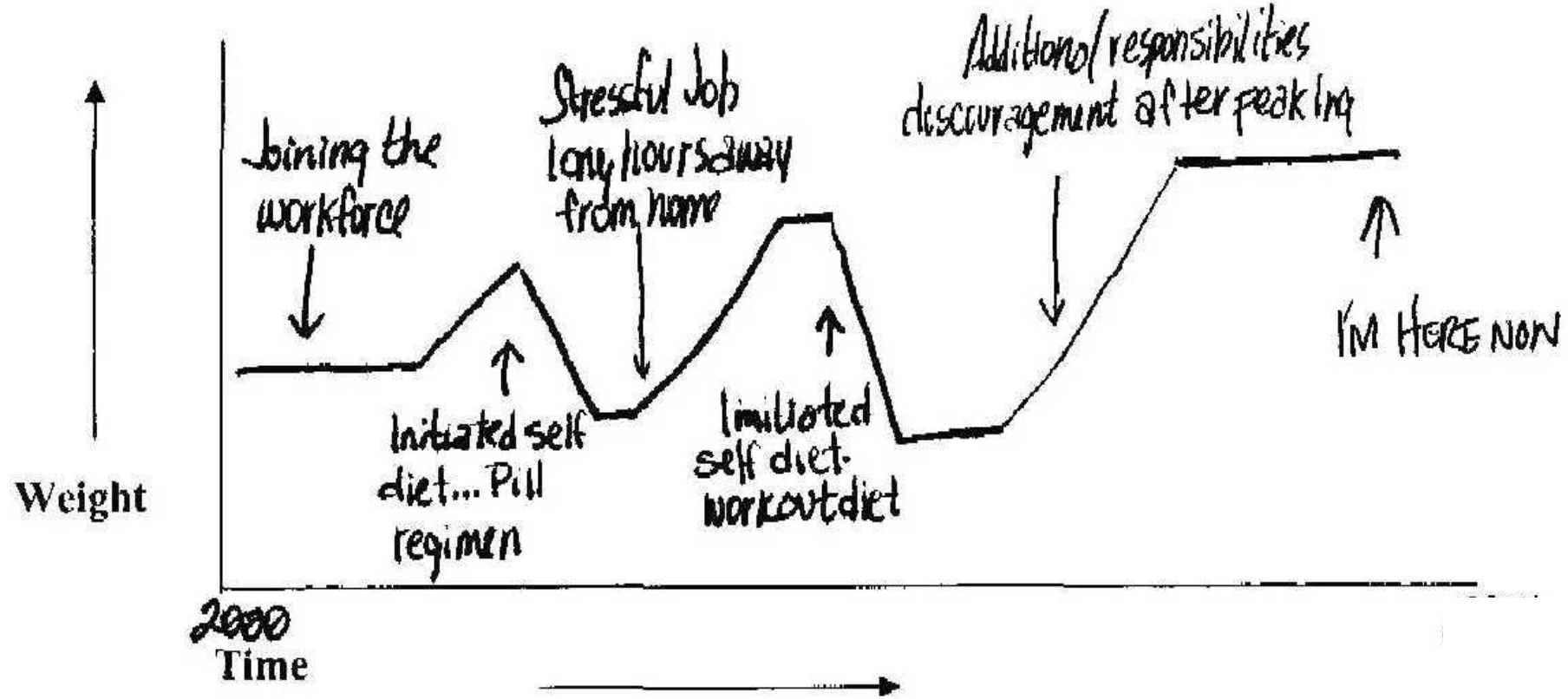
-- Omeprazole 40mg QD

CPAP = continuous positive airway pressure therapy.

Case 2: Mr. T 55-year-old Man

- Mr. T has been married for 20 years and has 2 children.
- He has been battling his weight for many decades. He previously lost weight on his own through diet and exercise, as well as one time while taking an appetite-suppressant medication. He previously saw a registered dietitian when he was diagnosed with diabetes.
- He attributes his weight gain to pressures at work and at home and having less time to take care of himself.

Mr. T's Weight History



Case 2 (continued)

- **Diet history:** Skips breakfast; first meal is at 11:30 AM, typically in a restaurant with clients; dinner is at home with his family and usually in large portions.

- Physical activity is limited to activities of daily living.

Case 2 (continued)

- **Physical examination**
  - Weight: 318 lbs; height: 70”; BMI: 45 kg/m^2
  - BP: 128/62 mm Hg
  - HR: 92 bpm
  - Heart: Grade 2/6 SEM at apex
  - Extremities: dystrophic skin changes, 1+ edema
- **Labs**
  - FBS: 95 mg/dL
  - A1C: 7.6%
  - BUN: 19 mg/dL
  - eGFR: 73 mL/min/1.73 m^2
  - Lipids
    - TC: 154 mg/dL
    - LDL-C: 80 mg/dL
    - TG: 181 mg/dL
    - HDL-C: 38 mg/dL

During the office visit, the patient asks if you think bariatric surgery would be a good idea for him.

BUN = blood urea nitrogen; eGFR = estimated glomerular filtration rate; FBS = fasting blood sugar; SEM = systolic ejection murmur.

Case 2 – Question

What is your response to his question about bariatric surgery?

1. Go for it; here is the name of a good surgeon.
2. Before you make this decision, you need to find out more about it. Go to a seminar at the hospital.
3. Let's talk about all of your options. You have struggled, but you have never tried medically supervised weight loss or one of the new medications.
4. You have a number of chronic diseases. Your focus should first be on your diabetes. If you control glycemia, you can prevent future complications.

Case 2 – Discussion

- What is the evidence for diabetes reversal?
  - How much weight loss is necessary?
  - Can we predict who will do well?
  - What is the evidence for nonsurgical versus surgical approaches?
- Should every patient try medications before moving on to surgery?

Case 2 (continued)

- You discuss all options with Mr. T.
- He attends a group discussion of bariatric surgery but says, “I want to try something less aggressive.”
- He agrees to work with a registered dietitian who recommends the use of meal replacement products for greater calorie, carbohydrate, and portion control. He is started on a 1400-calorie per day diet.
- He also agrees to discuss possible medications to aid in his dieting efforts.
- You tell him that his diabetes medications may need monitoring during weight loss.

Case 2 – Question

Which of the following medications would you recommend the patient to consider?

1. Phentermine
2. Orlistat
3. Phentermine/topiramate ER
4. Naltrexone/bupropion ER
5. Liraglutide 3.0 mg
6. Semaglutide 2.4 mg

Case 2 (continued)

- Through shared decision making, the patient elects to try liraglutide 3.0 mg, and you provide a prescription. He is instructed on use of a pen and drug administration, including titration over the first month.
- Over the next 6 months, he loses 29 lbs (9% of initial body weight). Weight is now 289 lbs. New BMI = 41.5 kg/m^2 (class III obesity).
- **Labs**
  - Glucose: 102 mg/dL
  - A1C: 6.2%
  - TC: 174 mg/dL
  - LDL-C: 104 mg/dL
  - HDL-C: 51 mg/dL
  - TG: 95 mg/dL

- Weight and labs remain stable over an additional 6 months.

Case 2 – Question

Mr. T returns for a follow-up visit at 1 year. What do you recommend at this time?

1. The medical problems are well controlled. No changes needed.
2. Begin to taper and discontinue some of the medications to simplify his regimen.
3. Broach the topic of bariatric surgery again for further weight loss and resolution of medical problems.
4. Add an additional medication for further weight loss.

The patient decided to proceed to bariatric surgery after a 6 month pre-operative process

Which procedure would be best for this patient?

1. Laparoscopic Sleeve Gastrectomy
2. Laparoscopic R-Y Gastric Bypass
3. Laparoscopic Duodenal Switch Procedure
4. Open gastric bypass given his BMI is >40